

Appl. No. 10/717,141
Filed November 19, 2003

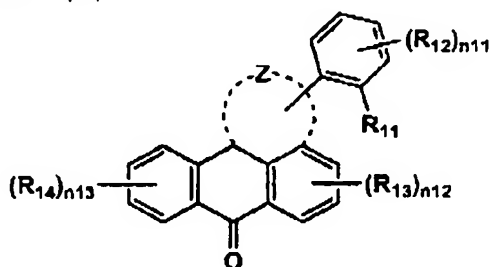
This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Original) A dye represented by the following formula

(1):

formula (1)



wherein Z is an atomic group necessary to form a 6-membered nitrogen containing aromatic ring; R_{11} is a hydrogen bonding group; R_{12} , R_{13} and R_{14} are independently a hydrogen atom or a substituent; n_{11} and n_{13} are each an integer of 1 to 4; n_{12} is an integer of 1 to 3.

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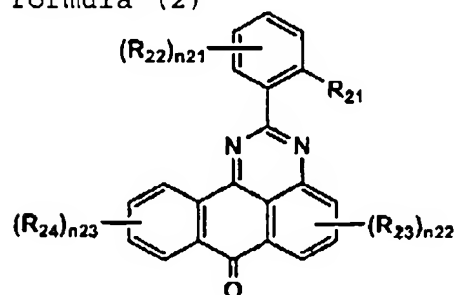
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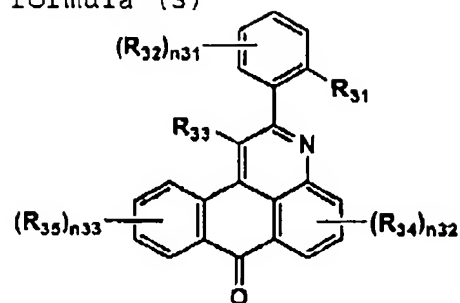
2. (Original) The dye of claim 1, wherein the dye represented by formula (1) is a dye represented by the following formula (2), (3), (4), (5), (6) or (7):

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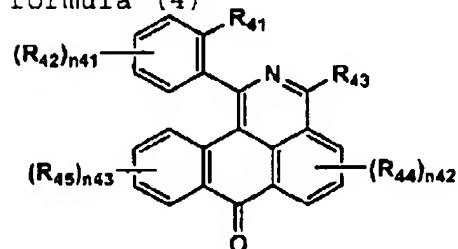
formula (2)



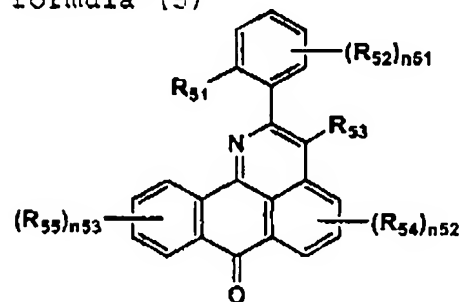
formula (3)



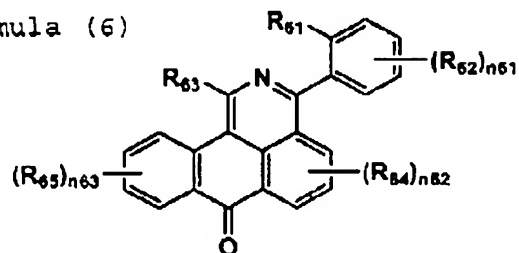
formula (4)



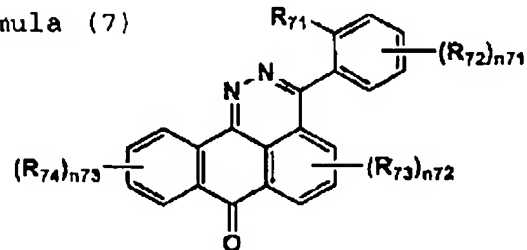
formula (5)



formula (6)



formula (7)



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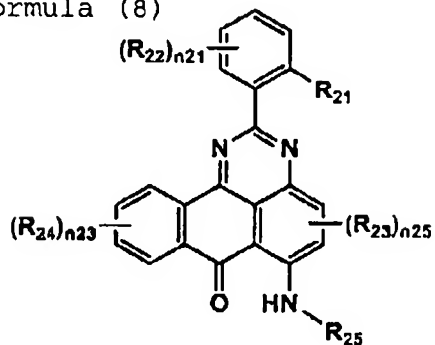
wherein R_{21} , R_{31} , R_{41} , R_{51} , R_{61} and R_{71} are each a hydrogen bonding atom; R_{22} , R_{23} , R_{24} , R_{32} , R_{33} , R_{34} , R_{15} , R_{42} , R_{43} , R_{44} , R_{45} , R_{52} , R_{53} , R_{54} , R_{55} , R_{62} , R_{63} , R_{64} , R_{65} , R_{72} , R_{73} , and R_{74} are independently a hydrogen atom or a substituent; n_{21} , n_{23} , n_{31} , n_{33} , n_{41} , n_{43} , n_{51} , n_{53} , n_{61} , n_{63} , n_{71} and n_{73} are each an integer of 1 to 4; n_{22} , n_{32} , n_{42} , n_{52} , n_{62} and n_{72} are each an integer of 1 to 3.

3. (Original) The dye of claim 2, wherein the dye represented by formula (1) is a dye represented by formula (2) or (3).

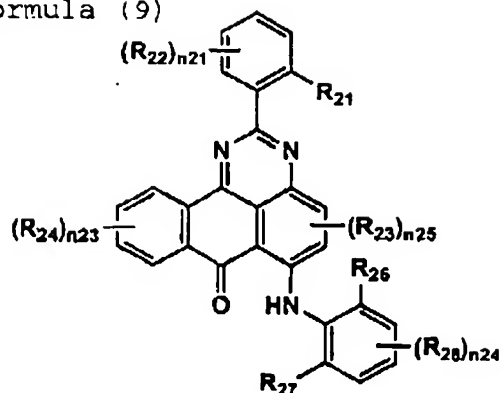
4. (Original) The dye of claim 3, wherein the dye represented by formula (2) is a dye represented by the following formulas (8) or (9), and the dye represented by formula (3) is a dye represented by the following formulas (10) or (11):

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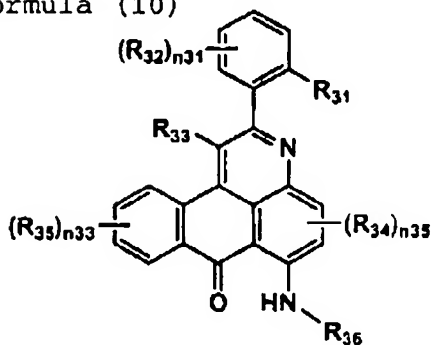
formula (8)



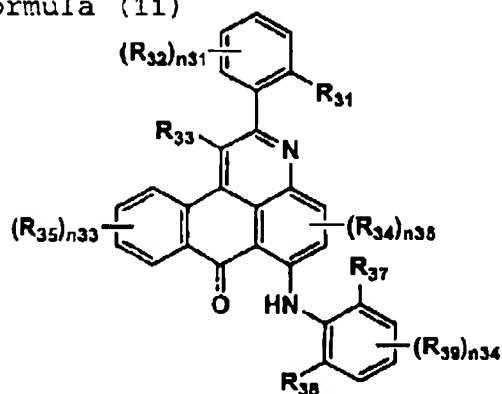
formula (9)



formula (10)



formula (11)

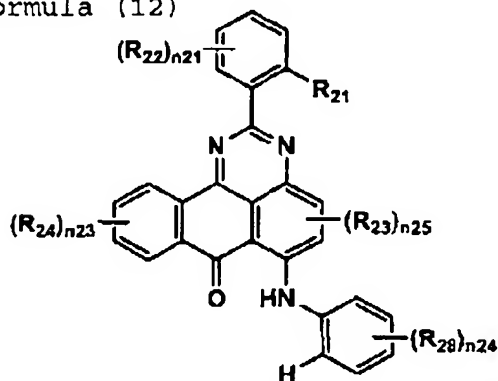


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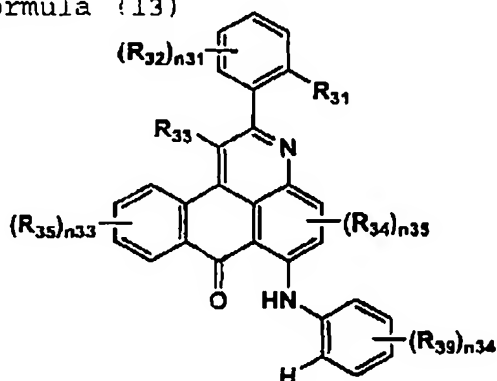
wherein R_{21} and R_{31} are independently a hydrogen bonding group;
 R_{22} , R_{23} , R_{24} , R_{28} , R_{32} , R_{33} , R_{34} , R_{35} and R_{36} are independently a
hydrogen atom or a substituent; R_{26} , R_{37} , R_{37} and R_{38} are
independently a substituent; n_{21} , n_{23} , n_{31} , and n_{33} are each an
integer of 1 to 4; n_{24} and n_{34} are each an integer of 1 to 3; n_{25}
and n_{35} are each an integer of 1 or 2; R_{25} and R_{36} are
independently a group having a Hammett substituent constant (σ)
of 0.3 to 1.0.

5. (Original) The dye of claim 3, wherein the dye
represented by formula (2) is a dye represented by the following
formula (12), and the dye represented by formula (3) is a dye
represented by the following formula (13):

formula (12)



formula (13)



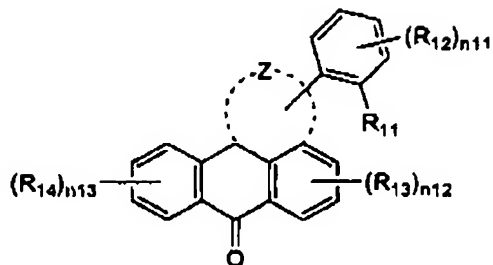
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wherein R_{21} and R_{31} are independently a hydrogen bonding group;
 R_{32} , R_{33} , R_{24} , R_{25} , R_{32} , R_{33} , R_{34} , R_{35} and R_{36} are independently a
hydrogen atom or a substituent; n_{21} , n_{23} , n_{24} , n_{31} , n_{33} , and n_{34}
are each an integer of 1 to 4; n_{25} and n_{35} is an integer of 1
or 2.

6. (Currently Amended) An ink for ink jet printing
comprising a dye represented by the following formula (1) and a
solvent:

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formula (1)

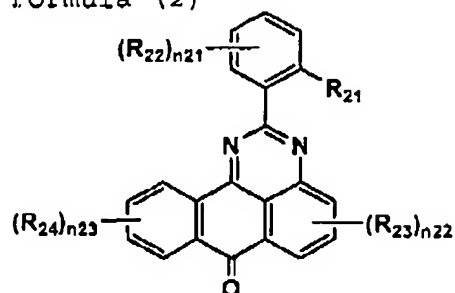


wherein Z is an atomic group necessary to form a 6-membered nitrogen containing aromatic ring; R₁₁ is a hydrogen bonding group; R₁₂, R₁₃, and R₁₄ are independently a hydrogen atom or a substituent; n₁₁ and n₁₃ are each an integer of 1 to 4; n₁₂ is an integer of 1 to 3.

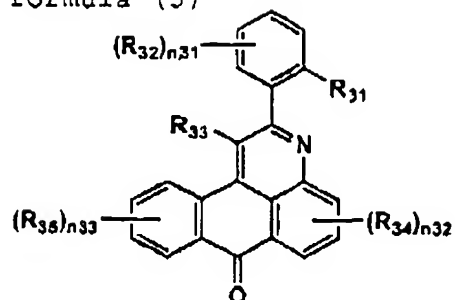
7. (Original) The ink of claim 6, wherein the dye represented by formula (1) is a dye represented by the following formula (2), (3), (4), (5), (6) or (7):

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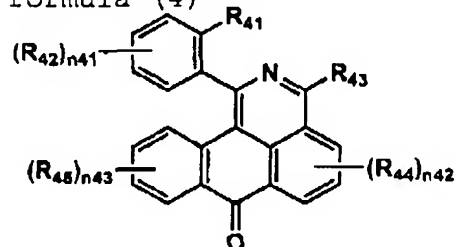
formula (2)



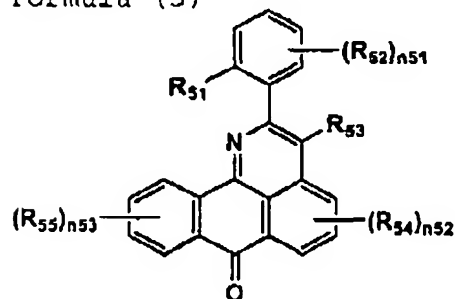
formula (3)



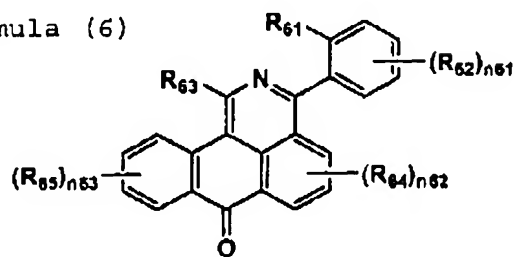
formula (4)



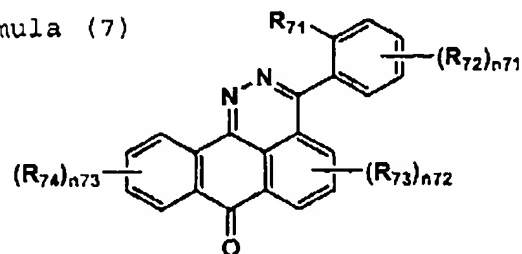
formula (5)



formula (6)



formula (7)



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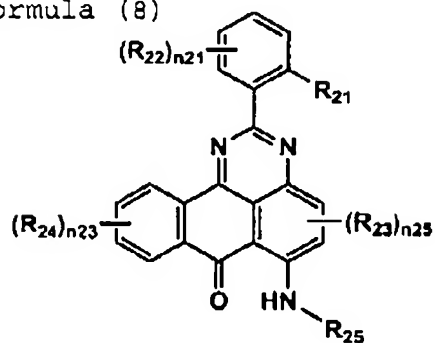
wherein R_{21} , R_{31} , R_{41} , R_{51} , R_{61} and R_{71} are each a hydrogen bonding atom; R_{22} , R_{23} , R_{24} , R_{32} , R_{33} , R_{34} , R_{35} , R_{42} , R_{43} , R_{44} , R_{45} , R_{52} , R_{53} , R_{54} , R_{55} , R_{62} , R_{63} , R_{64} , R_{65} , R_{72} , R_{73} , and R_{74} are independently a hydrogen atom or a substituent; n_{21} , n_{23} , n_{31} , n_{33} , n_{41} , n_{43} , n_{51} , n_{53} , n_{61} , n_{63} , n_{71} and n_{73} are each an integer of 1 to 4; n_{22} , n_{32} , n_{42} , n_{52} , n_{62} and n_{72} are each an integer of 1 to 3.

8. (Original) The ink of claim 7, wherein the dye represented by formula (1) is a dye represented by formula (2) or (3).

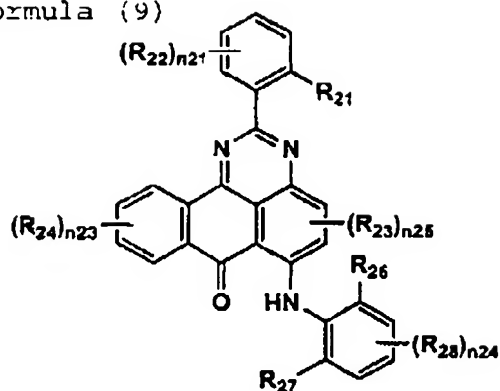
9. (Original) The ink of claim 8, wherein the dye represented by formula (2) is a dye represented by the following formulas (8) or (9), and the dye represented by formula (3) is a dye represented by the following formulas (10) or (11):

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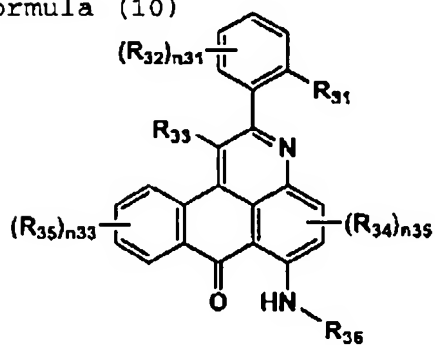
formula (8)



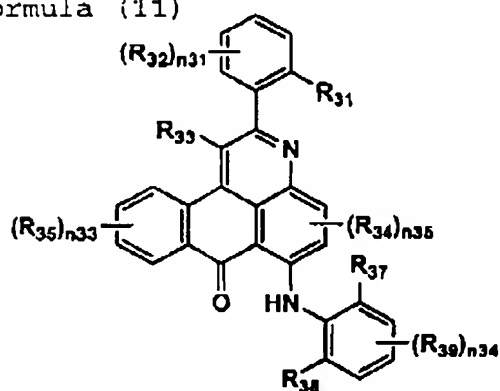
formula (9)



formula (10)



formula (11)

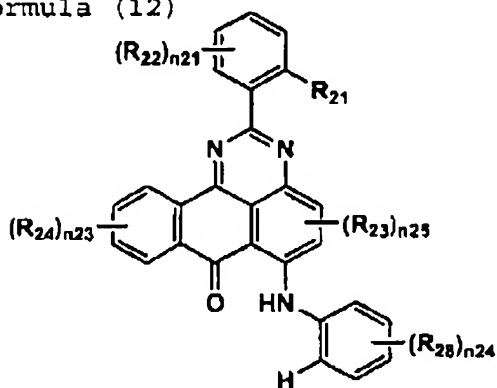


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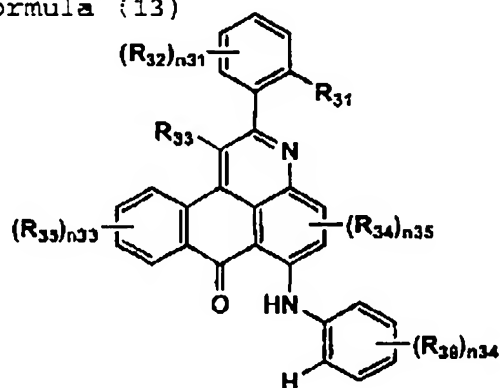
wherein R_{21} and R_{31} are independently a hydrogen bonding group;
 R_{12} , R_{23} , R_{24} , R_{28} , R_{32} , R_{33} , R_{34} , R_{35} and R_{38} are independently a
hydrogen atom or a substituent; R_{26} , R_{27} , R_{37} and R_{38} are
independently a substituent; n_{21} , n_{23} , n_{31} , and n_{33} are each an
integer of 1 to 4; n_{24} and n_{34} are each an integer of 1 to 3; n_{25}
and n_{35} are each an integer of 1 or 2; R_{25} and R_{36} are
independently a group having a Hammett substituent constant (σ_p)
of 0.3 to 1.0.

10. (Original) The ink of claim 8, wherein the dye
represented by formula (2) is a dye represented by the following
formula (12), and the dye represented by formula (3) is a dye
represented by the following formula (13):

formula (12)



formula (13)



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wherein R_{21} and R_{31} are independently a hydrogen bonding group;
 R_{22} , R_{23} , R_{24} , R_{28} , R_{32} , R_{33} , R_{34} , R_{35} and R_{36} are independently a
hydrogen atom or a substituent; n_{21} , n_{23} , n_{24} , n_{31} , n_{33} , and n_{34}
are each an integer of 1 to 4; n_{25} and n_{35} is an integer of 1
or 2.

11. (Original) The ink of claim 6, wherein in the compound
represented by formula (1), the molecule contains at least one
sulfonic acid group or at least one carboxyl group.

12. (Original) The ink of claim 6, wherein the ink
comprises the dye in the form of fine particle dispersion.

13. (Original) The ink of claim 6, wherein the ink
comprises the dye together with an oil-soluble polymer in the
form of fine particle dispersion.